

REMARKS

An Office Action was mailed on August 18, 2004. Claims 1-16 are pending. Claims 11-16 are allowed.

Claims 1-4 are rejected under 35 U.S.C. §102(b) as being anticipated by Skinner (U.S. Patent 1,003,213). Claim 5 is rejected under 35 U.S.C. §103(a) as being unpatentable over Skinner '213, while claims 6-10 are rejected under 35 U.S.C. §103(a) as being unpatentable over Skinner '213 in view of Urban (U.S. Patent 5,676,544).

Responsive thereto, Applicant has amended the claims to clearly define over the totality of the prior art of record by defining a dental instrument having first and second curved portions of differing radii of curvature, wherein at least one of said first and second curved portions is marked with measured segments that follow the radii of curvature of the curved portions so that the deposit measured along the gingival surface of the tooth is determined by counting the measured segments. All of the amendments are clearly supported by page 3 of the specification and the drawings and do not constitute new matter.

Having the measured segments follow the curvature of the curved portions highlights a significant difference between the dental instrument of the present invention and the prior art and is reflected in part in the allowance of original claims 11-16. The curved end portions of the present invention are intended to follow the curvature along the posterior and anterior teeth above the gum line as discussed on page two of the specification. The segments along the curved portions measure deposit buildup along the curvature of the teeth or the gingival surface, such that the amount of deposit along a tooth is reflected by counting the number of segments along the curvature of the curved portion.

This inventive concept is significantly different from all of the measuring probes of the prior art, including the Urban probe, wherein the measuring gradations are intended to measure depth from the tip of the probe. As such, the segments are positioned along the non-curved portion of the dental instrument as shown in Sedelmayer '519, Yeh '373, Lowenthal '420, Currie '537 and Cohan '640 to name only a few. Similarly in Urban '544, the annular markings define a striped gauge (240) to indicate depths from the gum line up the tooth and do not follow the curvature of the curved portions.

As Skinner '213 clearly fails to teach a dental instrument having markings, the Examiner is respectfully requested to withdraw the §102(b) rejections.

Applicant also respectfully requests withdrawal of the §103(a) rejection over Skinner in view of Urban because one skilled in the art would not consider it obvious to combine the teachings of Skinner and Urban to arrive at the claimed invention. Both the Skinner and Urban tools are fundamentally different in both function and structure. The Skinner tool is a very early scaling instrument designed to remove plaque and calculus. It appears to follow the facial contour of the tooth from the cervical bulges in an axial direction towards the gingival, and includes sharp edges that are designed or capable of plaque removal. This is evident from both the specification and the drawings of Skinner.

The Urban instrument is clearly stated to be a scaling and root planing instrument thus containing a sharp bladed cutting edge. This instrument has a uniquely shaped shank and lines demarcating the length of the instrument to help estimate the depth of the pocket being cleaned. The Urban instrument has a clear subgingival use and is generally limited to the facial surfaces, and is clearly the marriage of a slightly turned Gracey curette and a periodontal probe (see column 2 of Urban).

It should be appreciated that both the Skinner and Urban references fail to teach or reasonably suggest a dental instrument that has a very different curvature which represents the curvature of the gum line from one interdental papilla to the adjacent interdental papilla. The dental instrument of the invention is designed to measure plaque along the gingival surface, which is effected by the curved markings along the curved outer portions.

Firstly, one skilled in the art would have no reason to incorporate markings of any kind into the Skinner reference because Skinner is not structured as a measuring probe. Secondly, the markings of Urban are annular depth markings that function in a manner similar to the standard periodontal probes of the prior art of Sedelmayer '519, Yeh '373, Lowenthal '420, Currie '537 and Cohan '640 to name only a few. Thirdly, the curvature of the end portions of both the Skinner and Urban tools make it impossible to gauge the gingival tooth surface because it would require manipulating the ends of such tools in a manner that is impossible relative to the mouth opening. This is also evident by comparing FIGS. 4-5 of the present application with FIG. 1 of Skinner and FIG. 3 of Urban.

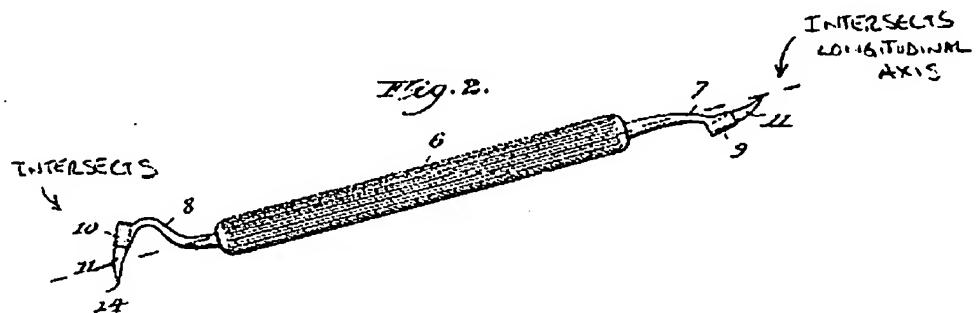
Accordingly, Applicant respectfully disagrees with the Examiner that the Skinner reference either alone or in combination with the Urban reference teaches or suggests the claimed invention. Applicant further submits that a *prima facie* case of obviousness has not been successfully established. In addition, in order to establish a case of *prima facie* obviousness there must also be shown a motivation to combine the teachings of the Skinner and Urban references, and some suggestion of the desirability to combine the references must be found and demonstrated in the references. This burden cannot be satisfied by simply asserting that the modification would have been "well within the ordinary skill of the art."

As the CAFC stresses for a § 103 rejection to stand, the Examiner is required to show **with evidence** the motivation, suggestion or teaching of the desirability of making the specific combination at issue. That evidence is required to counter the powerful attraction of a hindsight-based obviousness analysis. See, for example, *In re Lee*, 277 F.3d 1338, 1343, 61 U.S.P.Q. 2d 1430, 1433 (Fed. Cir. 2002) ("Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references"). It is respectfully submitted that this involves more than a mere bald assertion that it would be obvious to combine the cited references. With respect, the Examiner has failed to indicate why one of ordinary skill in the art would be motivated to incorporate the teachings of Urban into Skinner to arrive at the claimed invention. With respect to the amended claims, this is particularly striking as the dental instrument of the present invention is structurally devised to measure a gingival surface along a tooth, not a periodontal pocket away from a tooth as suggested by the Examiner and as specifically recited in the paragraph bridging columns 6 and 7 of Urban.

In re Lee requires that the record must state with particularity all the evidence and rationale on which the PTO relies for a rejection and sets out that it is necessary to explain the reasons one of ordinary skill in the art would have been motivated to select the references and to combine them to render the claimed invention obvious. Under *Lee*, the PTO must state in writing the evidence on which it bases its rejection. With respect, the present office action falls short of this requirement as there is no motivation shown in Urban to modify the curved ends to provide for curved marking segments to measure the gingival surface, and then to apply such modified curved ends to a plaque scraper structure as shown in Skinner. Modifying Skinner as

suggested by the Examiner would completely revise its structure and function, which is evidence of improper hindsight analysis and reasoning. For the foregoing reasons, reconsideration is respectfully requested.

Applicant has also amended claims 4 and 5 and added new claims 17-20 to focus on another structural distinction of the dental instrument of the present invention. The Skinner tool, for example, is structurally similar to periodontal probes of the prior art in that, relative to the longitudinal axis of the tool, the curved ends first curve away from the longitudinal axis and then either intersect or curve back in a direction that crosses such axis.

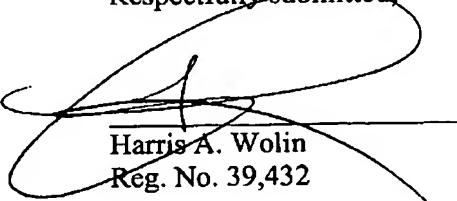


On the contrary, the dental instrument of the present invention is effectively double-J shaped such that the curved ends extend tangentially off the longitudinal axis and do not intersect or point in a direction that intersects the longitudinal axis. This structure also supports the measuring of the gingival surface as shown in FIGS. 4 and 5 of the present application, as compared to the plaque-scraping function as illustrated in FIG. 1 of Skinner. Applicant respectfully submits that such claims are clearly patentable over the prior art of record.

An earnest effort has been made to be fully responsive to the Examiner's objections. In view of the above amendments and remarks, it is believed that, in addition to allowed claims 11-16, that claims 1-5, 7-9 and 17-20, consisting in total of independent claims 1, 11 and 17 and the claims dependent therefrom, are in condition for allowance. Passage of this case to allowance is earnestly solicited. However, if for any reason the Examiner should consider this application not to be in condition for allowance, the Examiner is respectfully requested to telephone the undersigned attorney at the number listed below prior to issuing a further Action.

Any fee due with this paper may be charged on Deposit Account 03-2455.

Respectfully submitted,


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